REMARKS

This is in response to the Office Action of February 26, 2008. Step (a) in claims 1, 13, 17, and 18 is clarified to "heating and/or pressing a transfer material having an organic thin-film layer formed on a temporary support and a first laminate comprising a substrate and at least a transparent conductive layer or a rear-surface electrode formed on said substrate, which overlap each other such that a surface of said organic thin-film layer of said transfer material faces only the side of said substrate having said transparent conductive layer formed thereon being intended to form a receiving surface, without decompressing a space between said transfer material and said substrate, thereby forming a laminate structure." Claims 1, 13, 17, and 18 are amended to delete the terminology "non-imagewise transfer," replacing it with the terminology "entirely transfer." Step (b) in claims 1, 13, 17, and 18 is clarified to "peeling said temporary support from said laminate structure to entirely transfer said organic thin-film layer to said receiving surface of said first laminate with adjusting the angle of said transfer material to said first laminate to 90° or less and a peeling angle of said temporary support from said organic thin-film layer to 90° or more." The amendments to claims 1, 13, 17, and 18 are supported, for instance, in lines 6-12 on page 20 of the specification and in Figure 1. No new matter is introduced by this Amendment. Claims 1, 2, 4-14, and 16-18 as amended are before the Examiner for reconsideration on their merits.

Rejection under 35 U.S.C. § 112, ¶ 1

Claims 1, 13, 17, and 18 were rejected under the first paragraph of 35 U.S.C. § 112 as failing to comply with the written description requirement. Office Action, page 2. The claims in question had previously been amended to specify "non-imagewise" transfer of an organic thin film layer to a receiving surface. The Examiner contended that the language in question lacked adequate support in the original disclosure. Applicant respectfully submits that this ground of rejection has been overcome by the removal of the language in question from the claims.

Rejection under 35 U.S.C. § 112, ¶ 2

Claims 1, 13, 17, and 18 were rejected under the second paragraph of 35 U.S.C. § 112 as being indefinite. Office Action, page 3. The Examiner contends that it is unclear what is meant by the terminology "non-imagewise" transfer of an organic thin film layer to a receiving surface. Applicant respectfully submits that this ground of rejection has been overcome by the removal of the language in question from the claims.

Rejection over Shibata

Claims 1, 2, 4, 7-14, 17, and 18 were rejected under 35 U.S.C. § 102(e) as being anticipated by US 2002/0127877 A1 to Shibata et al. ("Shibata"). Office Action, pages 3-7. The rejection is respectfully traversed.

Shibata discloses a method for producing an organic thin film device by: causing an organic thin film of a transfer material to face a substrate, the transfer material bearing the organic thin film on a temporary substrate; ***decompressing*** a space between the transfer material and the substrate to bring the transfer material into contact with the substrate; heating the organic thin film; and peeling the temporary substrate from the organic thin film to transfer the organic thin film to the substrate. Paragraph [0011].

More specifically, Shibata teaches a method for producing an organic thin film device by: making an organic thin film 112 of a transfer material 110 face a transparent electrically conductive layer 102 disposed on a support 101, the transfer material 110 having the organic thin film 112 on a temporary substrate 111; ***decompressing a space 105 between the transfer material 110 and the transparent electrically conductive layer 102*** to bring the transfer material 110 into contact with the transparent electrically conductive layer 102; heating at least one organic thin film 112; and peeling the temporary substrate 111 from the organic thin film 112 to transfer the organic thin film 112 to the transparent electrically conductive layer 102. See Shibata: Abstract and Figures 1(a), 1(b), 2, and 3. Figure 2 of Shibata shows a process of decompressing a space between a substrate and a transfer material of Figure 1(a).

Figure 3 shows an organic thin film transferred to the substrate of Figure 1(a). See also paragraphs [0021] and [0022] in Shibata. However, Shibata fails to teach a step of pressing in paragraph [0062] where a peeling-transfer process with heating to soften the organic thin film is described.

In contrast to Shibata, Applicant's claim 1 calls for: "A method for producing an organic thin-film device comprising the steps of (a) heating and/or pressing a transfer material having an organic thin-film layer formed on a temporary support and a first laminate comprising a substrate and at least a transparent conductive layer or a rear-surface electrode formed on said substrate, which overlap each other such that a surface of said organic thin-film layer of said transfer material faces only the side of said substrate having said transparent conductive layer formed thereon being intended to form a receiving surface, without decompressing a space between said transfer material and said substrate, thereby forming a laminate structure; (b) peeling said temporary support from said laminate structure to entirely transfer said organic thin-film layer to said receiving surface of said first laminate with adjusting the angle of said transfer material to said first laminate to 90° or less and a peeling angle of said temporary support from said organic thin-film layer to 90° or more; and (c) bonding a second laminate comprising a substrate and at least a rear-surface electrode or a transparent conductive layer formed on said substrate to said organic thin-film layer entirely transferred onto said first laminate, wherein the heating is carried out by a heating means selected from the group consisting of a laminator, an infrared heater, and a roller heater." Emphasis added.

This approach makes it possible to produce organic thin-film devices such as organic EL devices, etc., having excellent light-emitting efficiency with high productivity at low cost, using a transfer material having a uniform organic thin-film layer, whereby – particularly because a method in which an organic thin-film layer is coated onto a temporary support is used – the organic thin-film layer can be made significantly thinner than that obtained by a thermal transfer method by a laser (laser abrasion). The present method results in excellent uniformity of light emission. See the specification, page 46, lines 18-27. These features are significantly different from the features disclosed in the Shibata reference.

Persons of ordinary skill in the art referring to Shibata – which does not teach or suggest the method for producing an organic thin-film device comprising the steps of amended elements (a), (b), and (c) herein – would not be able to achieve the features of amended claim 1. Accordingly, amended claim 1 is not anticipated by or obvious over Shibata. Because claims 2, 4, and 7-12 depend from claim 1, they also are not anticipated by or obvious over Shibata.

Amended claim 13 requires the production of an organic electroluminescent device by method steps similar to those recited in amended claim 1. Accordingly, amended claim 13 is not anticipated by or obvious over Shibata for the same reason as discussed above with regard to amended claim 1. Because claim 14 depends from claim 1, it also is not anticipated by or obvious over Shibata.

Amended claims 17 and 18 require, respectively, the production of an organic thin-film device and the production of an organic electroluminescent device by method steps similar to those recited in amended claim 1. Step (c) in these claims, however, recites "wherein the heating and/or pressing is carried out by at least one of a laminator, an infrared heater, and a roller heater." Accordingly, amended claims 17 and 18 are not anticipated by or obvious over Shibata for the same reason as discussed above with regard to amended claim 1. Also, it is noted that Shibata fails to teach the step of pressing in his paragraph [0062], where a peeling-transfer process with heating to soften the organic thin film is described.

Accordingly, the presently claimed invention is not taught by the Shibata reference. Withdrawal of the anticipation rejection as to claims 1, 2, 4, 7-14, 17, and 18 is respectfully requested.

Rejection over Wolk

Claims 1, 2, 4-14, and 16-18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over US 6,194,119 B1 to Wolk et al. ("Wolk"). Office Action, pages 8-14. The rejection is respectfully traversed.

The Examiner contends that Wolk discloses a peeling step such as "peeling said temporary support from said laminate structure to transfer organic thin-film layer to said receiving surface of said first laminate." However, Wolk actually teaches – in lines 9-13 on column 12 – that "The release layer may be part of the transfer layer or a separate layer. All or a portion of the release layer may be transferred with the transfer layer. Alternatively, most or substantially all of the release layer can remain with the donor substrate (temporary support) when the transfer layer is transferred." Clearly, this disclosure in Wok does not teach the peeling step of the present invention.

Wolk discloses thermal transfer elements and processes from patterning solvent-coated layers and solvent-susceptible layers onto the same receptor substrate, where these donor elements and methods are particularly suited for making organic electroluminescent devices and displays. The donor elements can include a substrate, an optional light-to-heat conversion layer, and a single or multi-component transfer layer thereon. They can be imagewise transferred to a receptor to form an organic electroluminescent device, portions thereof, or components therefor. See Wolk's Abstract.

In contrast to Wolk, distinguishing features of the method for producing an organic thin film device in Applicant's claim 1 include the steps: (a) heating and/or pressing a transfer material having an organic thin-film layer formed on a temporary support and a first laminate comprising a substrate and at least a transparent conductive layer or a rear-surface electrode formed on said substrate, which overlap each other such that a surface of said organic thin-film layer of said transfer material faces only the side of said substrate having said transparent conductive layer formed thereon being intended to form a receiving surface, without decompressing a space between said transfer material and said substrate, thereby forming a laminate structure; (b) peeling said temporary support from said laminate structure to entirely transfer said organic thin-film layer to said receiving surface of said first laminate with adjusting the angle of said transfer material to said first laminate to 90° or less and a peeling angle of said temporary support from said organic thin-film layer to 90° or more; and (c) bonding a second laminate comprising a substrate and at least a rear-surface electrode or a transparent conductive layer formed on said substrate to said organic thin-film layer ***entirely***

transferred onto said first laminate, wherein the heating is carried out by a heating means selected from the group consisting of a laminator, an infrared heater, and a roller heater.

This approach makes it possible to produce organic thin-film devices such as organic EL devices, etc., having excellent light-emitting efficiency with high productivity at low cost, using a transfer material having a uniform, organic thin-film layer, whereby – particularly because a method in which an organic thin-film layer is coated onto a temporary support is used – the organic thin-film layer can be made extremely thinner than that obtained by a thermal transfer method employing a laser (laser abrasion). The present method results in excellent uniformity of light emission. See the specification, page 46, lines 18-27. These features are completely different from those disclosed in the Wolk reference.

In particular, Wolk fails to teach or suggest the step of entirely transferring the organic thin-film layer to the receiving surface of the first laminate while adjusting the angle of said transfer material to said first laminate to 90° or less and a peeling angle of said temporary support from said organic thin-film layer to 90° or more. Persons of ordinary skill in the art referring to Wolk – which does not teach or suggest the method for producing an organic thin-film device comprising the steps of amended elements (a), (b), and (c) herein – would not be able to achieve the features of amended claim 1 based on the Wolk disclosure. Accordingly, amended claim 1 is not obvious over the Wolk disclosure. Because claims 2 and 4-12 depend from claim 1, they also are not obvious over Wolk.

Amended claim 13 requires the production of an organic electroluminescent device by method steps similar to those recited in amended claim 1. Accordingly, amended claim 13 is not obvious over Wolk for the same reasons as discussed above with regard to amended claim 1. Because claims 14 and 16 depend from claim 1, they also are not obvious over Wolk.

Amended claims 17 and 18 require, respectively, the production of an organic thin-film device and the production of an organic electroluminescent device by method steps similar to those recited in amended claim 1. Step (c) in these claims, however, recites "wherein the heating and/or pressing is carried out by at least one of a laminator, an infrared heater, and a roller heater." Although Wolk teaches heating and pressing, Wolk fails to teach

the step of ***entirely*** transferring the organic thin-film layer to the receiving surface of the first laminate. Accordingly, amended claims 17 and 18 are not obvious over Wolk for the same reasons as discussed above with regard to amended claim 1.

Further, Applicant respectfully submits that the Examiner's contention – on page 15 of the Office Action, at lines 4-5 in Paragraph 40, that "Exposing the entire surface of the transfer material would result in nonimagewise transfer" – is not reasonable. The object of the Wolk invention cannot be achieved by nonimagewise transfer, and accordingly persons of ordinary skill in the art referring to Wolk would not expose the entire surface of the transfer material. It is axiomatic that a proposed modification of a reference cannot render the prior art unsatisfactory for its intended purpose. MPEP 2143.01.

Accordingly, the presently claimed invention is not taught by the Wolk disclosure and withdrawal of the obviousness rejection as to claims 1, 2, 4-14, and 16-18 is respectfully requested.

Conclusion

The rejections of record are not sustainable with respect to the invention presently claimed. Withdrawal of all rejections of record, and passage of this application to Issue, are earnestly solicited. If there are any questions, the Examiner is respectfully requested to contact Richard Gallagher (Registration No. 28,781) at (703) 205-8008.

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Respectfully submitted,

By _____

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